

Work Order ID 69705

Tuesday, May 17, 2011 2:21:58 PM



Page 1

Item ID: D350-636-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube LH

Start Date: 5/17/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/2/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: *[Signature]*Date: *11-05-17*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3492

C

IIN-D350-636

H

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-011 CHG 006

*Sublot**CL 11-7-13***B69705**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Sequence ID/
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QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.
SECOND SIDE

8- Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail C to 0.500" (8 holes per side)

9- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10- Open up holes of Detail A to 0.297" (total of 2 holes per side)

BB

11/06/20

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004A/R Aluminum Rod batch: ☐ M17456

12-Grind welds flush as per Dwg D2750

DL 11/06/20

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8 11/06/20

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 11/06/20

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				1	0		
150 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				1	0		BE 11/06/21

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D2750.2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ ☒ Sikaflex-291 batch: 11694 exp. date: 12/31/158- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)A/R ☐ ☐ Aluminum Rod batch: M117 456

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

BE 11/06/22
BE 11/06/27

B 11/06/31

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



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--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D2750

3 BE-11/06/27

12-Deburr holes

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

0.00

Memo

Sulab/28

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

Memo

Sulab/28

70

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Pressure Wash per QSI005 4.3	0.00							
	HandFinish	0.00							
Hand Finishing	Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								
200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
	Powdercoat	0.00							
Powder Coating	Memo START TIME: 2:15 OVEN TEMPERATURE: 320 °F FINISH TIME: 2:45								
210	QC3- Inspect Part Finish	0.00							
	QC	0.00							
Quality Control	Memo Inspect for foreign object per QSI 024								

1 BR 11-7-6

1X Ø M-11/07/07

1 Ø M 11/07/11

M 117745

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

220

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

✓ 1- Install inserts as per Dwg D2750

1 of 110711

230

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

✓ 1-Inspect for Foreign Objects

✓ 2-Spray inside of tube with "LPS-3" batch: N/A

✓ 3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: 1117516

EXP DATE: 12/07

✓ 4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube
A/R 55-o-ring lube batch: 11114189

✓ 5-Coat all exposed fasteners with "LPS Procyon" batch: 11114596

1 of 110711

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8 w/07/12



250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

11/7/13

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8 w/07/13



*****ensure antiseize is on AN8C21A bolts*****

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
	Packaging								
Packaging	Memo	0.00							
Packaging	Package as per PPP D350-636-011								
280		0.00							
	QC21- Final Inspection - Work Order Release								
QC	Memo	0.00							
Quality Control									

NEUT

P442/B C

5/17/14

ME 11-07-14

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 1

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Parent Item: D350-636-011

Parent Item Name: Skidtube LH



Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates(Rev E) JLM Verf: EC
 IPP Rev: M 08-04-22 update steps 4, 13 DD verified by: EC
 IPP Rev: N 08-09-23 revF as per dwg DD verified by: ec
 IPP Rev: O 09-02-06 apply antiseize on AN8C21A bolts as per PAR09-010
 DD verf: EC IPP Rev: P 10.06.22 revise
 seq110 DD verf: EC IPP Rev: Q 10.10.01 as per IIN revH
 DD verf: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2594-3 		Manufactured	No			230	Each	1,020.000	8	8			
O-Ring, 205 Skidtube													
				<u>Location</u>									
				FP-A									
					1020								
					65518								
					66952								
D3492-1 		Manufactured	No			230	Each	0.0000	8	8			
Plug													
D3492-3 		Manufactured	No			230	Each	0.0000	8	8			
Plug													



11/07/11 N/A



11/07/11



11/07/11

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Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

266.0000

8

8



O-RING



81 11/07/11

Location

Loc Qty

Loc Code

FP

80

M118077

X8

117460

80

FP-A

186

110915

139

115589

47

AN960JD816

Purchased

No

250

Each

43.0000

2

2



1/2" washer, Alum



SP 11/8/13

Location

Loc Qty

Loc Code

FP-A

43

106043

43

D2744

Manufactured

No

110

Each

31.0000

1

1



Cap



2 11/06/20

Location

Loc Qty

Loc Code

LG002

31

62715

3

65086

28

D2600-3-BENT

Manufactured

No

110

Each

14.0000

1

1



Extrusion Bent



1 11/06/20

Location

Loc Qty

Loc Code

LG

14

66875

8

68137

6

1 11/06/20

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Shop Packet Print

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Start Qty: 1.00

Required Qty: 1.00

D2743

Manufactured No

160 Each

139.0000 8 8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG001

139

67766

75

68251

64

D2739

Manufactured No

160 Each

6.0000 1 1



350 I Beam

Location

Loc Qty

Loc Code

LG

6

67785

1

68285

5

D3490-3

Manufactured No

160 Each

42.0000 4 4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

26

68106

26

LG001

16

67774

16

D3490-1

Manufactured No

160 Each

69.0000 4 4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

67

67773

11

68105

56

LG001

2

62450

2

BE 11/06/22
B 69818 x8

BB 11/06/21

BE 11/06/22
B 68952 x4

BE 11/06/22
B 69510 x4

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Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

Purchased

No

220

Each

1,685.000

38

38



Insert



JL 110711

LocationLoc QtyLoc Code

FP-B

4

110768

4

ST282

1681

110768

881

11717

800

y38

D3793-3

Manufactured

No

230

Each

30.0000

1

1



Wearshoe



JL 110711

LocationLoc QtyLoc Code

FP018

21

68356

13

69283

8

FP019

9

64447

9

x1

AN8C35A

Purchased

No

230

Each

69.0000

1

1



BOLT



JL 110711

LocationLoc QtyLoc Code

FP

40

117511

40

FP-A

29

115960

6

116874

23

x1

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 5

Tuesday, May 17, 2011 1:56:26 PM

Work Order ID: 69705

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

D3793-1

Manufactured No

230 Each

31.0000

1

1



Wearshoe



Handwritten: 110711

Location

Loc Qty

Loc Code

FP018

31

64445

14

69285

17

D3488-041

Manufactured No

230 Each

9.0000

1

1



Blade Fitting Assembly, LH



Handwritten: 110711

Location

Loc Qty

Loc Code

FP007

1

61689

1

FP008

8

62002

2

67788

6

D3794-3

Manufactured No

230 Each

34.0000

1

1



Gasket



Handwritten: 110711

Location

Loc Qty

Loc Code

FP010

26

68357

26

FP018

8

39422

1

61712

7

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 6

Work Order ID: 69705

Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 5/17/2011

Required Date: 6/2/2011



Start Qty: 1.00

Required Qty: 1.00

AN6C44A	Purchased	No	230	Each	82.0000	4	4
							<u>22</u> <u>110711</u>
BOLT							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	2	1117763
103964	2	
ST344	80	
117407	80	

x4

MS21083C8	Purchased	No	230	Each	113.0000	1	1
							<u>22</u> <u>110711</u>
NUT							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP-B	1	
115884	1	
ST303	112	
115884	0	
117291	37	
117423	50	
117677	25	

x1

D3536-25	Manufactured	No	230	Each	34.0000	1	1
							<u>22</u> <u>110714</u>
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP012	34	
65903	8	
68351	26	

x1

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 7

Work Order ID: 69705

Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

D3631-1	Manufactured	No	230	Each	500.0000	8	8
							<u>HL 110711</u>
Washer							

Location

Loc Qty

Loc Code



ST072

500

68062

500

18

D3791-1	Manufactured	No	230	Each	19.0000	1	1
							<u>HL 110711</u>
Wearplate *							

Location

Loc Qty

Loc Code

FP017

19

62239



7



68352

12

B69774

11

AN960C10L	<u>NAS1149C0332</u>	Purchased	No	230	Each	0.0000	38	38
	<u>R</u>						<u>(x38) HL 110711</u>	
washer								

D2745	Manufactured	No	230	Each	206.0000	8	8
							<u>HL 110711</u>
Bushing							

Location

Loc Qty

Loc Code

FP-A

206

67764

5

68248

201

x8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Résolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 8

Tuesday, May 17, 2011 1:56:27 PM

Work Order ID: 69705

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

1,290.000

34

34



Bolt



ul ul07/11

Location

Loc Qty

Loc Code

FP-A

7

1117872

x34

115835

7

ST350

1283

115422

49

116419

334

116549

100

117343

500

117508

300

D3537-1

Manufactured

No

230

Each

35.0000

3

3



Wearpad



ul ul07/11

Location

Loc Qty

Loc Code

FP017

35

870686

x3

63313

2

66804

29

66935

4

AN960C816L

Purchased

No

230

Each

0.0000

1

1



WASHER

NAS149C0832R / M114915



(x1) ul ul07/11

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Picklist Print

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Page 9

Work Order ID: 69705

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

230

Each

422.0000

4

4



BOLT



all u/o 7/11

Location

Loc Qty

Loc Code

FP-A

1

111982

1

ST351

421

111982

2

116419

23

116549

50

116704

96

117514

100

117619

50

117688

100

x4

NAS1611-013

Purchased

No

230

Each

168.0000

8

8



O-RING



all u/o 7/11

Location

Loc Qty

Loc Code

FP

163

117291

123

117460

40

FP-A

5

116582

5

x8

D3535-25

Manufactured

No

230

Each

30.0000

1

1



Wearshoe



all u/o 7/11

Location

Loc Qty

Loc Code

FP018

30

62233

1

65167

3

68353

11

69284

15

x1

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Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 10

Tuesday, May 17, 2011 1:56:28 PM

Work Order ID: 69705



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

D3794-1 Manufactured No

230 Each

32.0000

1

1



all 11/07/11

Gasket

Location

Loc Qty

Loc Code

FP010

32

39421

1

61704

5

68355

26

11

MS21043-6

Purchased No

230 Each

523.0000

4

4



all 11/07/11

NUT

Location

Loc Qty

Loc Code

FG

20

103693

20

FP-A

40

112314

40

y4

ST301

463

112314

463

D3493-1

Manufactured No

250 Each

31.0000

2

2



B68253 11/7/13

Washer

Location

Loc Qty

Loc Code

ST062

31

66975

31

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 11

Work Order ID: 69705

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

250

Each

113.0000

2



NUT

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST303

112

115884

0

117291

37

117423

50

117677

25



2
11/17/13 Sf

AN8C21A

Purchased

No

250

Each

76.0000

2



BOLT

Location

Loc Qty

Loc Code

ST345

76

116381

26

117562

50



2
2

NAS1515H3L

Purchased

No

230

Each

276.0000

8



WASHER

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

236

113362

236



8 4
4/07/11

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Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 12

Work Order ID: 69705

Parent Item: D350-636-011

Parent Item Name: Skidtube LH



Start Date: 5/17/2011

Required Date: 6/2/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250 Each

44.0000

1

1



Blade, 350 Skidtube



sl

Location

Loc Qty

Loc Code

ST466

44

61341

6

63589

38

D3532-1

Manufactured No

250 Each

13.0000

2

2



Spacer



366249 sl 1/7/13

Location

Loc Qty

Loc Code

ST065

13

62218

13

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Page 12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *69705*
RP11-05-17

RELEASED

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEC 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>RA</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>RA</i>	PORT HADLOCK, WA	
CHECKED	<i>RA</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>RA</i>	D2750	SHEET 1 OF 11
APPROVED	<i>RA</i>	TITLE	SCALE
DE APPR.	<i>RA</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

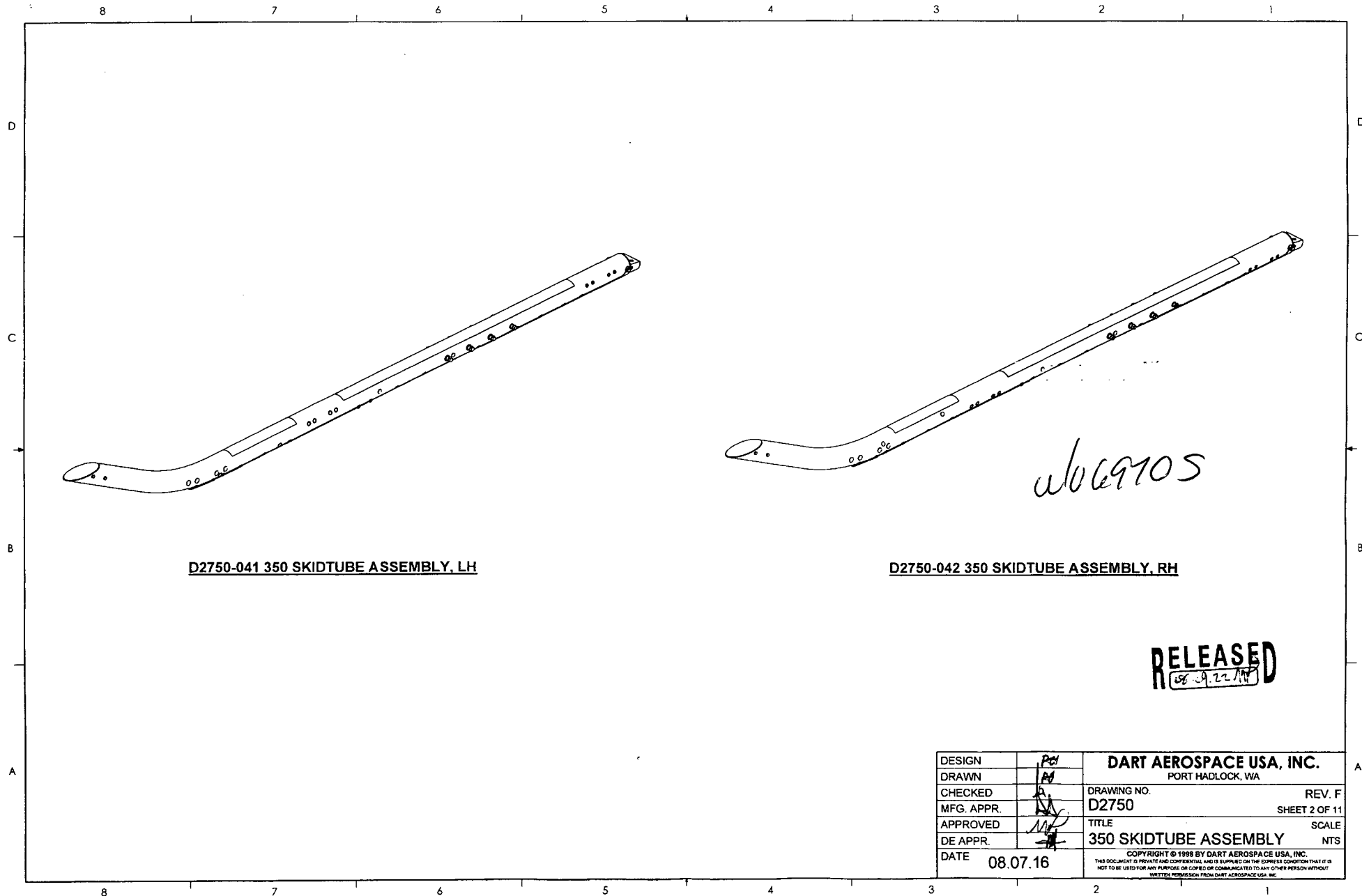
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W069705

RELEASED
18-09-22-11

DESIGN	PCN	DART AEROSPACE USA, INC.	
DRAWN	AM	PORT HADLOCK, WA	
CHECKED	JA	DRAWING NO. D2750	REV. F
MFG. APPR.	MA	SHEET 2 OF 11	
APPROVED	MA	TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS
DE APPR.	MA	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.	
DATE	08.07.16	THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

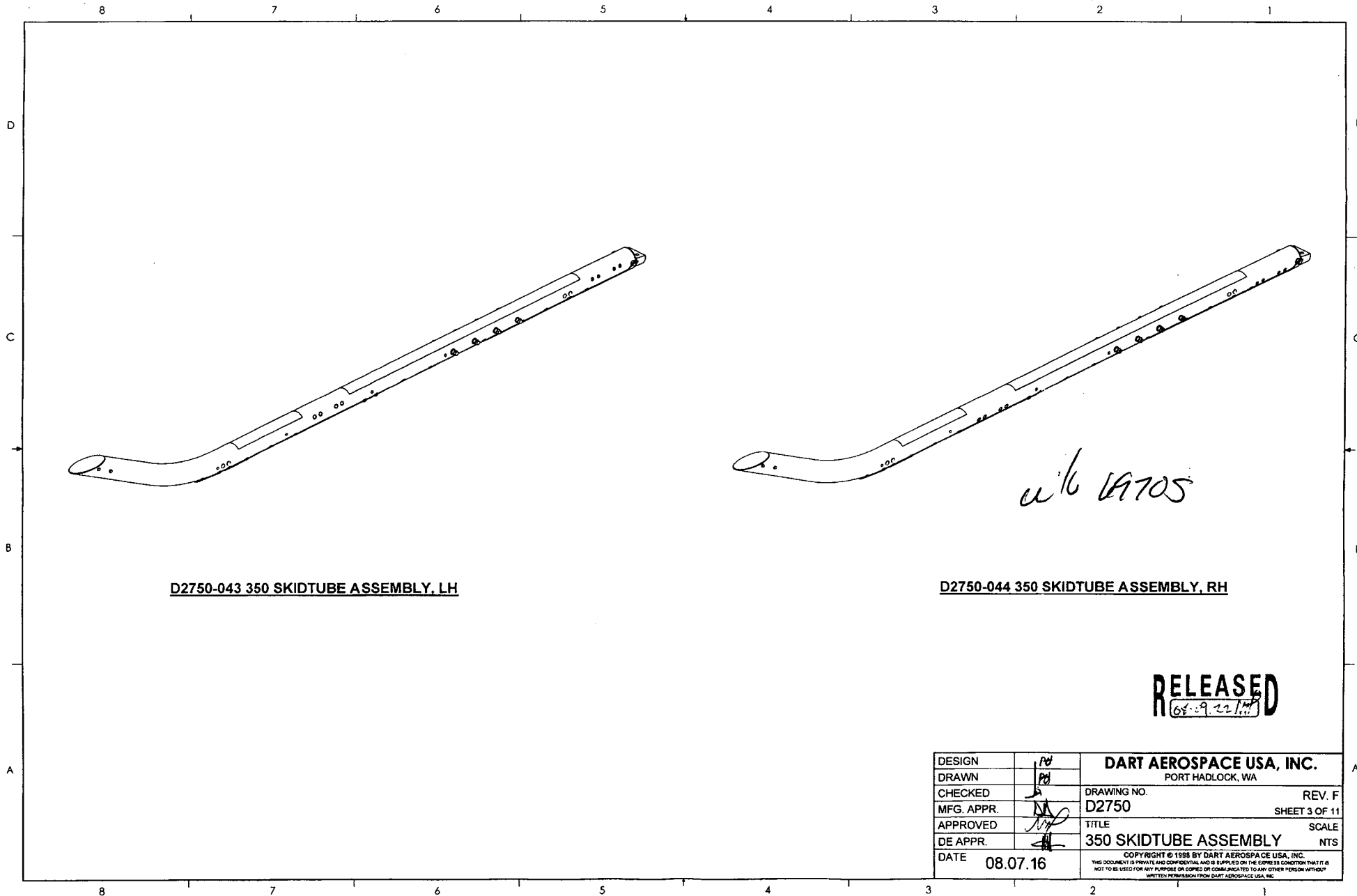
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



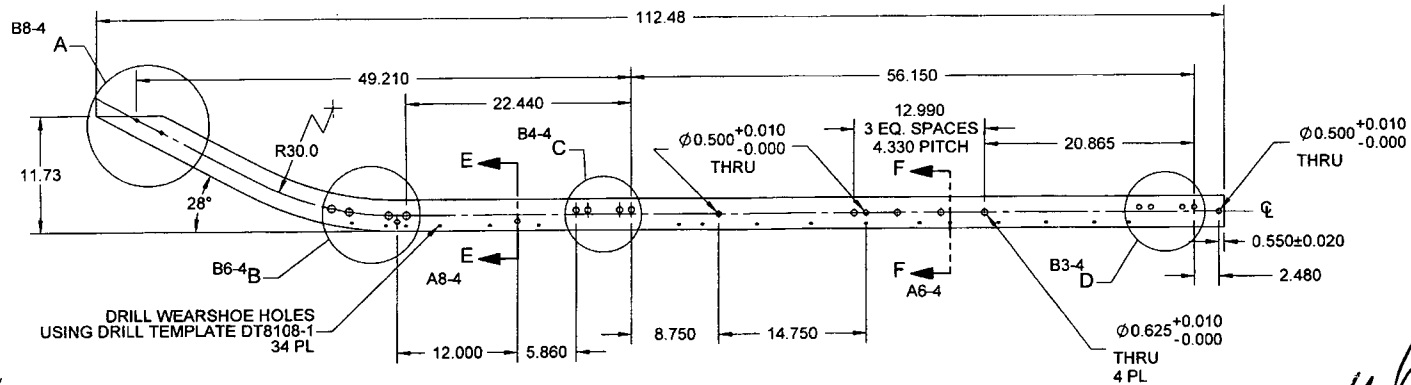
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

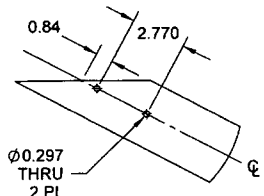
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

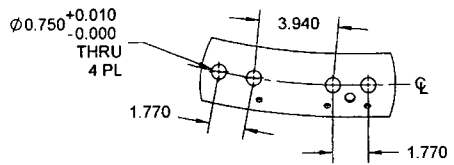


D2750-1 LH SKIDTUBE

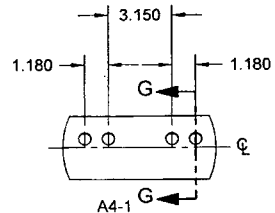
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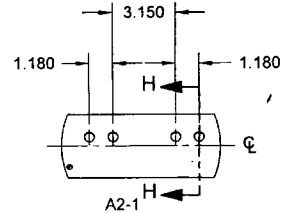
DETAIL A
SCALE 2X



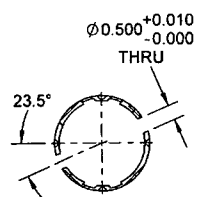
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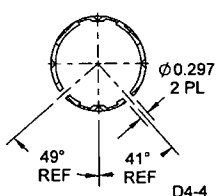
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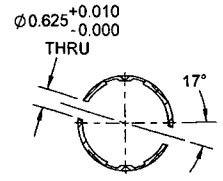
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SCALE 2X



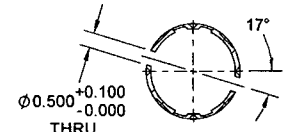
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

RELEASED

DESIGN	IP	DART AEROSPACE USA, INC.	
DRAWN	IP	PORT HADLOCK, WA	
CHECKED	IP	DRAWING NO.	REV. F
MFG. APPR.	IP	D2750	SHEET 4 OF 11
APPROVED	IP	TITLE	SCALE
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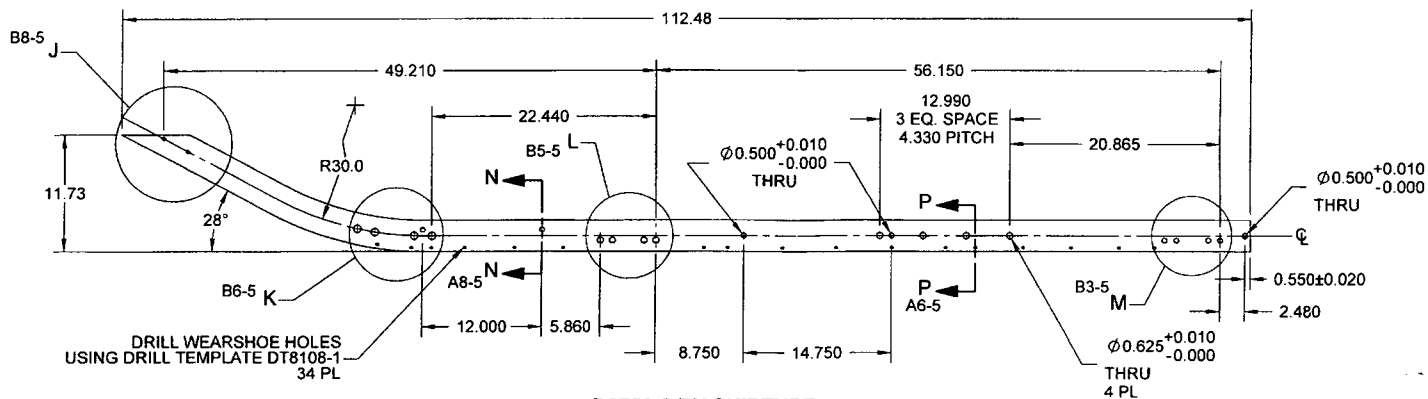
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

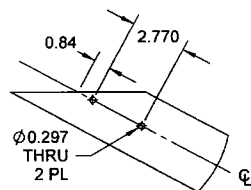
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

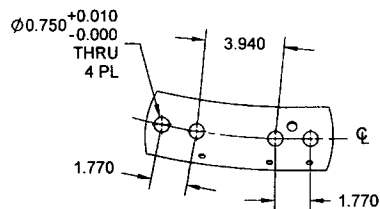
NOTE: Date & initial all entries



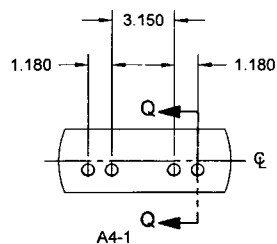
D2750-2 RH SKIDTUBE



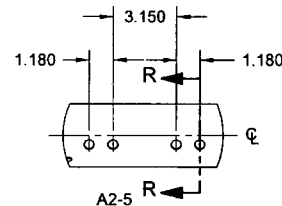
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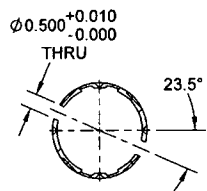
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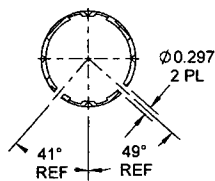
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SCALE 2X



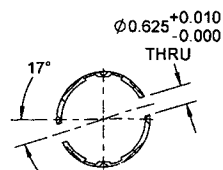
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SCALE 2X



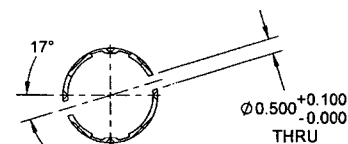
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

W6 69105

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

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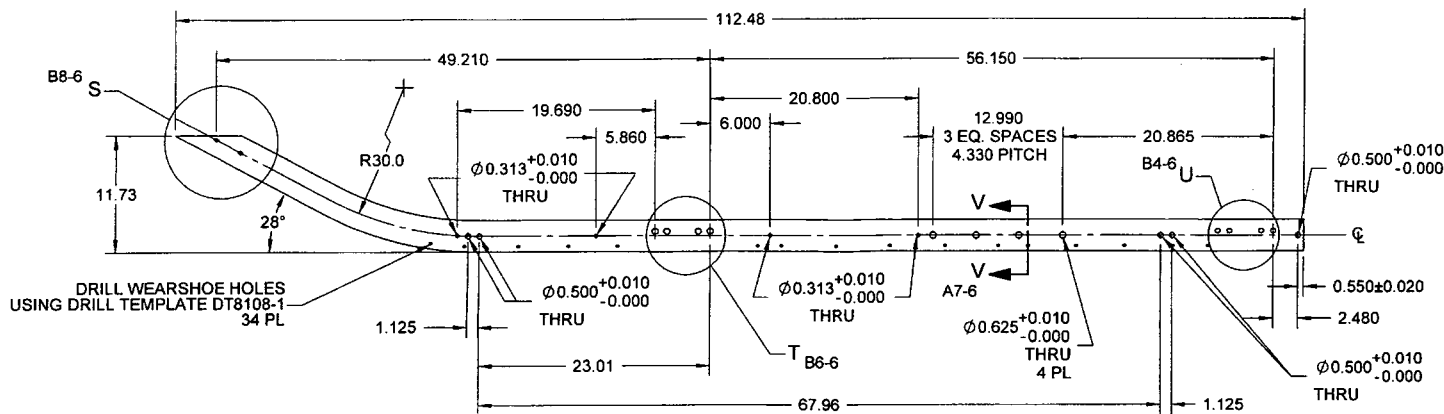
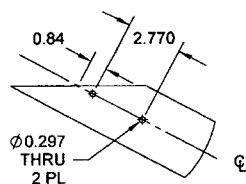
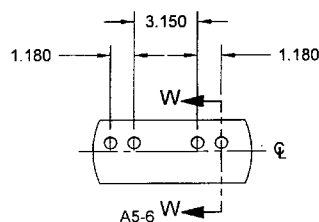
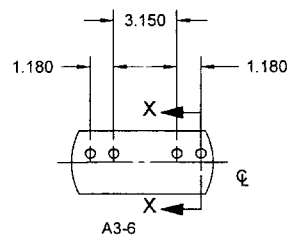
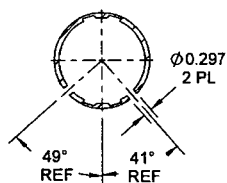
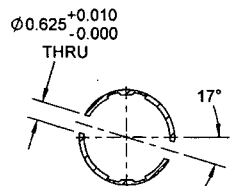
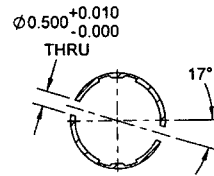
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

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3

2

1

**D2750-3 LH SKIDTUBE****DETAIL S**
D8-6
SCALE 2X**DETAIL T**
C5-6
SCALE 2X**DETAIL U**
D3-6
SCALE 2X**SECTION V-V**
C4-6
SCALE 3X, 17 PL**SECTION W-W**
B6-6
SCALE 3X, 4 PL**SECTION X-X**
B4-6
SCALE 3X, 4 PL**RELEASED**
08-07-16

DESIGN		DART AEROSPACE USA, INC.	
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WLO 69705

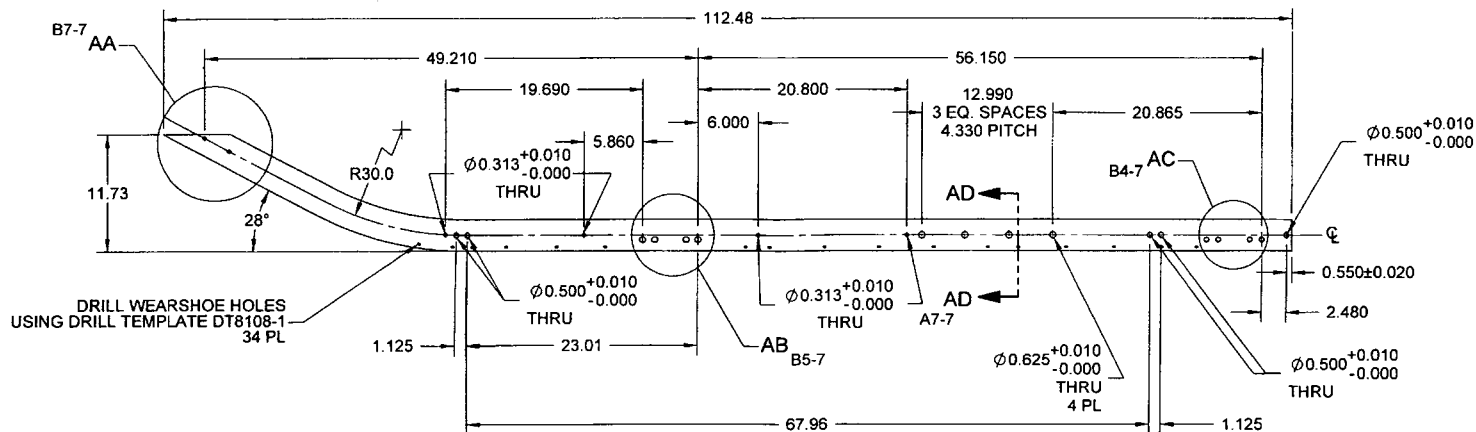
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

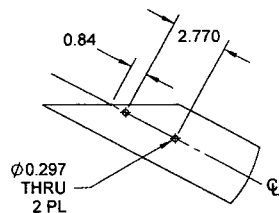
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

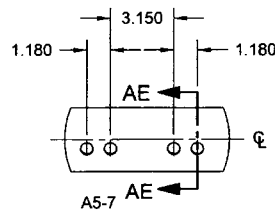
NOTE: Date & initial all entries



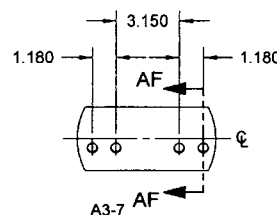
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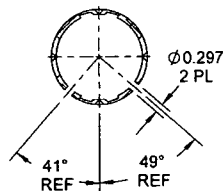
DETAIL AA
SCALE 2X



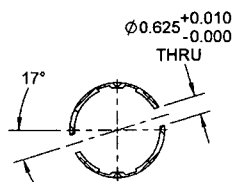
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SCALE 2X



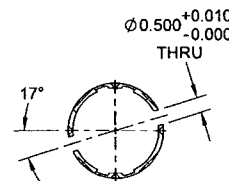
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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DESIGN	REV. F	DART AEROSPACE USA, INC.	
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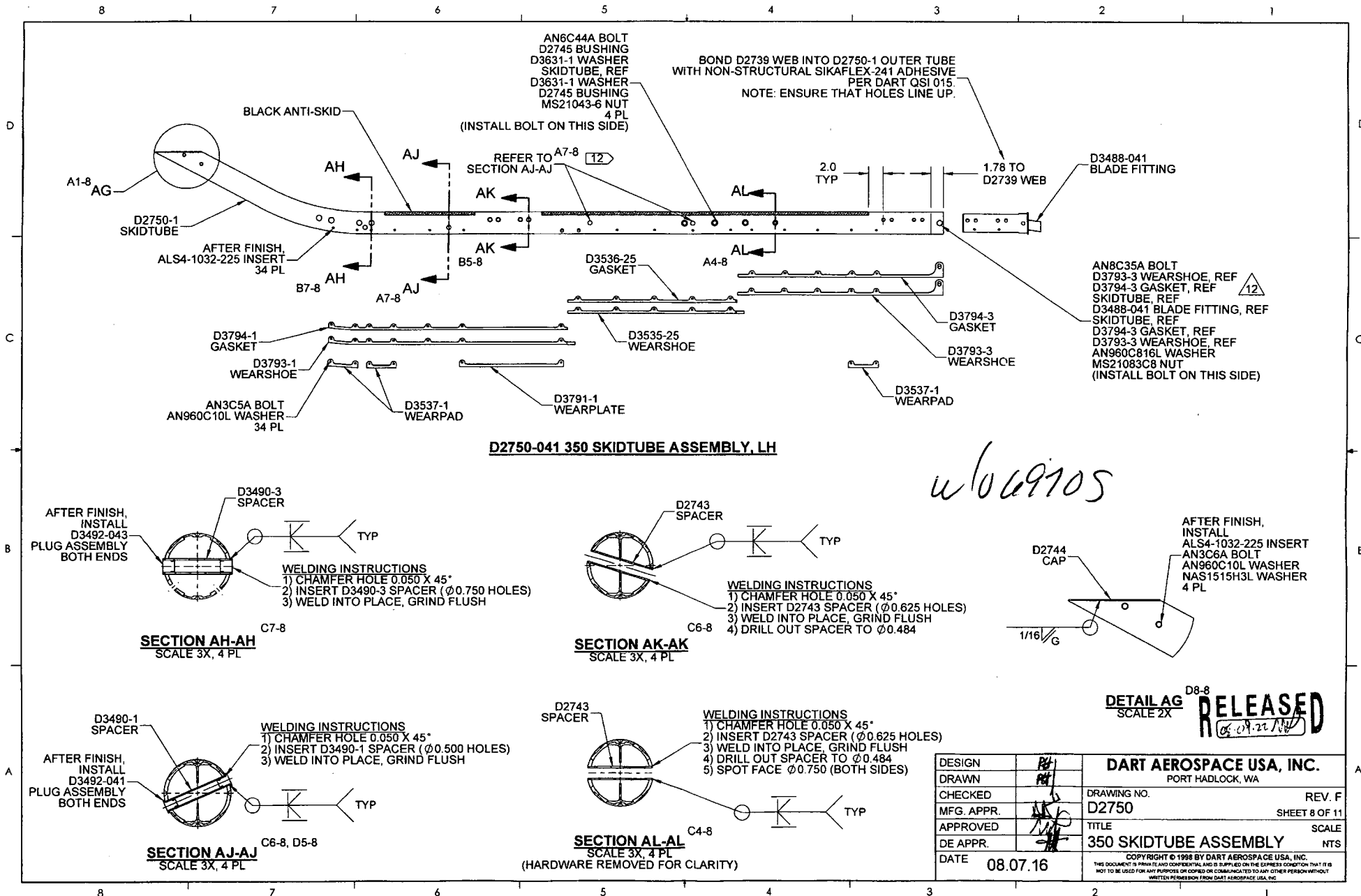
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

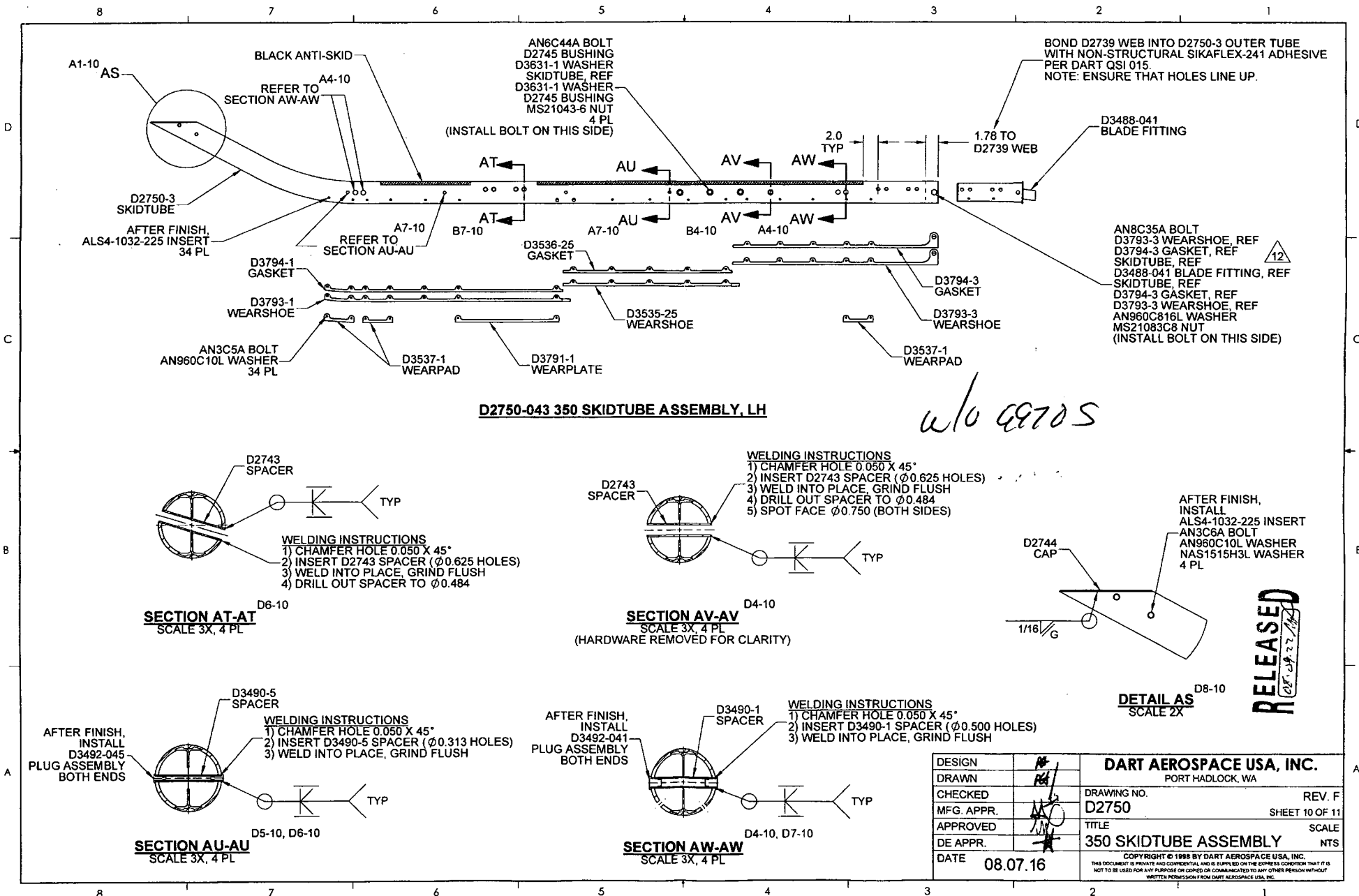
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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DESIGN	RA	DART AEROSPACE USA, INC.	
DRAWN	RA	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 10 OF 11
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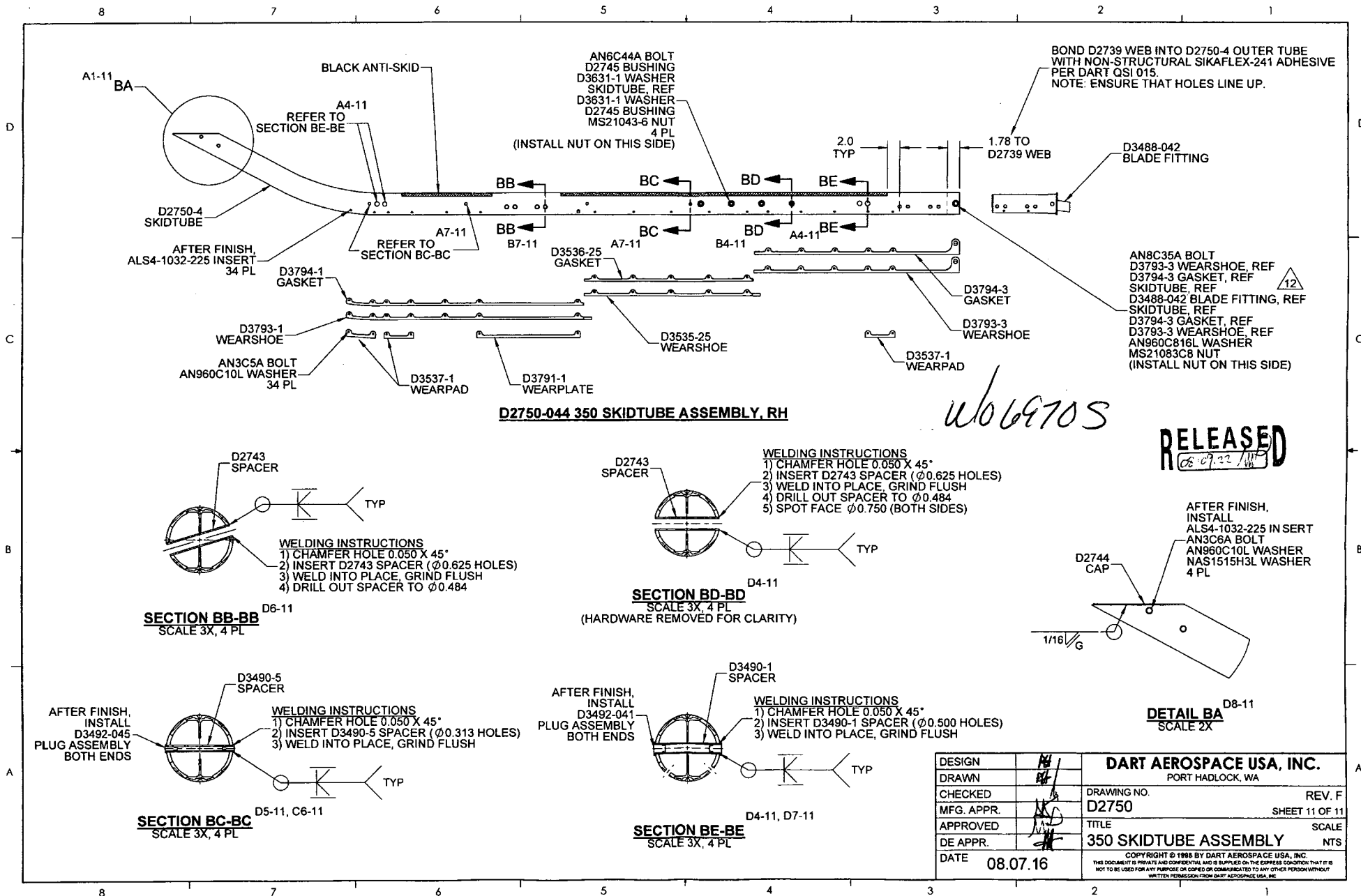
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 254

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: 69872
Part number: A350 636 011
Description: 350
Welding Process: Tig[☒] Mig[]
Base material: aluminum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pat Lewis Date of Test Coupon 11.06.08
Welder Barclay Elliot Date of Test Coupon 11/06/08

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries